



# SEE *BULLETIN*



Special Edition

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NASA'S SPACE ENVIRONMENTS AND EFFECTS PROGRAM

October 2004

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## *Office of Exploration Systems- How Did It Effect SEE?*

**BY: BILLY KAUFFMAN**  
**NASA's Space Environments and Effects Program**

In the May 2004 bulletin, I started off with an article entitled:

*NASA's New Exploration Systems Enterprise (Code T) – How Does This Effect SEE?*

At that time, we did not know how we would be affected but preliminary indications were positive. In May, I was asked to participate in the formulation of the Space Environments and Effects Theme and the Project Plan for the Advanced Materials and Structural Concepts within the Human and Robotics Technology (H&RT) Program.

Many actions and decisions have taken place within the H&RT Program since that article. The H&RT Intramural Call for Proposals and Selections and Extramural Call for Proposals have taken place. It is apparent that the H&RT Program's vision is to take or will take the SEE Program in a new and different direction than how SEE has operated for the past 10 years. This has brought a lot of questions, "what ifs", thoughts, and discussions among personnel within the SEE Program Office.

All of these discussions have brought back some real good memories. It is hard to believe that since 1997 (SEE started in 1994 with two and three year technology development contracts) SEE has brought to the community close to 10 space environment engineering design models and over 40 publications. The names of the universities, industries, NASA, and other government organizations that have downloaded and started using the SEE products are too many to list but it is simply amazing.

After very careful consideration of the current environment and the projected path for the program, I believe it is time to tackle new challenges that have been afforded to me at MSFC. Due to the SEE Program's successes and wonderful relationships that have been built over the years, this is a harder decision to make than when I agreed to transfer to the SEE Program back in February, 1996. I had no idea what was in store for me when I agreed to come to work for SEE.

Those who know me well know that it is very hard for me to refuse challenges...especially when I have been told that I can't do it. I have done a lot of investigating already into the new challenges that lie ahead and responded to personnel that "I can't walk on water" but I will give it a try knowing I am going to get wet. ☺

I am very proud of the products that have been produced and I expect them to continue under new and excellent leadership. I would like to take the time to thank all the wonderful people that made these products so successful and have supported me in the SEE Program. There are too many to name but the Technical Working Groups, Principal Investigators, and authors are a great start. You have never faulted in your support.

I would like to especially thank Jody Minor, Donna Hardage, Sopo Yung, and Gayle Brown of the SEE Program Office. You have been the best and the results prove it by the great community support. I would like to thank Steve Pearson for supporting the SEE Program even though his duties were completely different with his new endeavors. Who would have thought that such a small program (personnel and resources) could have as big of an impact as SEE?

I am encouraging you, the community, to please support the new SEE Program Manager, Mr. Robby Newton. I believe you will really like interfacing and working with him as he comes up to speed learning the program processes and products. Robby comes with a background of radiation effects on materials and is excited to be taking over the Program. Robby can be reached at [robert.l.newton@nasa.gov](mailto:robert.l.newton@nasa.gov) or 256-544-7880.

I would like to sign off by saying that I have had a great time working and managing the SEE Program. I have enjoyed the good times and weathering the down times and those dynamics are what makes the program fun. Continuing with tradition as our first SEE Program manager signed off several years ago.....

See YOU at the FINISH LINE

***Billy Kauffman***

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## ***Final Thoughts...***

**By: Jody Minor**

### **NASA's Space Environments and Effects Program**

As I look back over my last fifteen years with NASA, only two programs have truly caught my interest enough to make me want to work for them...Shuttle and SEE.

From 1989 to the end of 1996, I supported the Shuttle Program by working with Pratt & Whitney on the development of the alternate high-pressure turbopumps which are now flying on each Shuttle mission. In 1997, the SEE Program came calling and was my first opportunity to learn that there was so much more to NASA besides the Shuttle Program. It was my first opportunity to learn how closely NASA worked with the best and brightest minds in government, industry and academia. And it was also my first opportunity to move beyond the engineering technical discipline and learn to effectively manage projects. For all this, I am truly grateful.

The last eight years with SEE have been one of the high points in my career. I learned more than I ever thought I could about a subject which I knew nothing about. I met many outstanding individuals either as PIs, authors, Technical Working Group (TWG) members or professional acquaintances. And SEE gave me the opportunity to represent the Agency in front of international partners, high-level government officials and my old college professors. What an amazing ride this has been.

But as time moved on and SEE's circumstances changed, I realized it was time for me to move on as well. While I will definitely miss the SEE Program, I look forward to returning to the Shuttle Program and helping it return to flight. I recognize that this may be the last time I have the chance to work with flight hardware. It's simply an opportunity too good to pass up.

I want to thank all the people that have supported us in the past...either through the TWGs, solicitations, conferences or as professional mentors. Our success could not have occurred were it not for all of you. Your expertise and timely support gave this program what it needed – and what our customers wanted. I feel truly fortunate that I was able to be a part of something so successful within NASA.

I also want to thank those within the SEE Program...Donna, Gayle, Sopo, Kyle and Jason. Our team worked together like no other team with which I've been involved. The actions of this team are directly responsible for the success of our program. It was an honor to serve with all of you. I'd also like to give kudos to Mr. Steve Pearson, as well, who was generous enough to offer me job within SEE back in 1997. Steve started it all...and the rest is history.

Lastly, many thanks go to Billy Kauffman who managed our program for the last several years. We had good and bad times... but Billy always let me argue my viewpoint

to him. In the end, he always had the final say. But in the best tradition of Steve, he listened to what I had to say and didn't dismiss me just because he was 'management' and I wasn't. I very much appreciate that. Together, with all the SEE personnel, I feel like we made a difference.

Please continue to support our new SEE Program manager, Robby Newton, and his new staff. They are very eager (and capable, too!) and will need your support to continue their work.

I give my best wishes and hope the very best for everyone.

***Jody Minor***

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### ***Message from Donna...*** **NASA's Space Environments and Effects Program**

Everyone,

MSFC is currently going through a major reorganization and I have decided to accept another job offer here at MSFC. I've really enjoyed working with the SEE Program and had a great time working with all of you, the environments community, over the years. Everyone has been very supportive of the SEE Program and I hope you continue that support in the future. My new position will include technology development coordination in the Instrument & Payload Systems Department within MSFC's Engineering Directorate. Given my new responsibilities, I hope that I'll have the opportunity to work with many of you again in the future. Thanks again for a great 5 years...it was a lot of fun!

***Donna Hardage***

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## *Meet the New Guys...*

### **New Managers for NASA's Space Environments and Effects Program**

Hello everyone,

I'm excited to have the opportunity to work in the SEE Program. Billy, Jody, and Donna have done a superb job of managing the many activities within SEE. Rick and I will work hard to provide you with the same level of service that you've come to expect out of this program. I've been a NASA/MSFC employee for over 13 years, most of which were spent in the Materials Laboratory here at Marshall. I look forward to meeting as many of you as possible over the next few months. My phone number is 256-544-7880, and my email is [robby.newton@nasa.gov](mailto:robby.newton@nasa.gov). Please call or drop me an email if I can be of any assistance.

***Robby Newton, Manager SEE Program***

Everyone,

I, too, am looking forward to meeting and working with you on the SEE Program. Having spent the last nine years working flight hardware as a project manager, I've learned to appreciate the challenges space environments present, and look forward to assisting you in your efforts to develop new technologies to address these challenges. Having worked at NASA/MSFC for 18 years, I've seen what can be accomplished on a program where the Team members work together well, and that is our goal. Robby and I will do our best to assure that you have the support necessary to succeed. Please feel free to contact me at 256-544-5299 or email me at [rick.turner@nasa.gov](mailto:rick.turner@nasa.gov).

***Rick Turner, Deputy Manager***

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# **CALL FOR ABSTRACTS**

## **9TH SPACECRAFT CHARGING TECHNOLOGY CONFERENCE (9<sup>TH</sup> SCTC)**

**4-8 APRIL, 2005 - TSUKUBA, JAPAN**  
**(Registration reception on Sunday evening 3 April 2005)**

The Japanese Aerospace Exploration Agency (JAXA) cordially invites you to attend the 9th Spacecraft Charging Technology Conference to be held from 4-8 April, 2005 in Tsukuba City, Japan. The conference (hosted by JAXA's Institute of Space Technology and Aeronautics (ISTA) and co-sponsored by NASA's SEE Program, the Air Force Research Lab, European Space Agency and AIAA, will be devoted to technological and scientific topics related to spacecraft charging.

### **Topics will include:**

1. Ground testing techniques and international standardization
2. Modeling, database and numerical simulation
3. Interaction of spacecraft and systems with the natural and induced plasma environment
4. Satellite on-orbit investigations
5. Flight anomaly investigations
6. Plasma propulsion and tethers
7. Space environment specifications
8. Material characterization
9. Radiation effects
10. Hypervelocity impact
11. High power space systems
12. Others

### **Important Dates:**

**1 September 2004: Start of abstract submission and Registration**

**30 November 2004: Deadline for abstract submission.**

31 January 2005: Deadline for pre-registration

3 April 2005: Registration and Welcome Reception

4-8 April 2005: 9th Spacecraft Charging Technology Conference

For more information: <http://www.jsfws.info/jaxa-ista/9thSCTC/index.html>

**Local Organizing Committee:** Tateo Goka (chair), Masao Nakamura

**Program Committee:** Mengu Cho (chair), Koji Tanaka, Haruhisa Fujii

**General Conference Information:** Masao Nakamura

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# SEERS/GENESIS UPDATE...

BY: JODY MINOR

## NASA's Space Environments and Effects (SEE) Program

NASA has established a Mishap Investigation Board (MIB), led by Dr. Michael Ryschkewitsch, to investigate the crash of the Genesis Sample Return Capsule (SRC). It is unclear when the SRC will be shipped to NASA's Johnson Space Center; however, the spacecraft will first be shipped to Lockheed Martin's facilities in Denver to help determine why Genesis crashed. Science investigators remain optimistic that many samples remain in good enough condition for study.

Some preliminary work has been completed to preserve the condition of the spacecraft for any potential future environmental investigations on the spacecraft's materials. This work includes:

- Complete photo and video survey of the spacecraft
- Absorptance and emissivity measurements
- Transported to clean room at UTTR
- Soil samples around crash site taken for contamination reference
- Emphasize M1 paint investigation

The hardware has been impounded by the MIB and it will be up to this Board to determine courses of action and schedules. NASA Headquarters' Space Science Mission Office continues to support whatever space environmental investigations may be performed on the hardware and believes that there is still much that can be learned from the spacecraft.

The SEERS Principal Investigators stand ready to support these investigations or help with the Board's inquiry, if needed.



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## UPCOMING EVENTS

### **43rd AIAA Aerospace Sciences Meeting and Exhibit**

Reno, NV/January 10-13, 2005

### **9<sup>th</sup> Spacecraft Charging Technology Conference (SCTC)**

Tsukuba, Japan, April 4-8, 2005

For more info: <http://www.jsfws.info/jaxa-ista/9thSCTC/>

### **National Space & Missile Materials Symposium (NSMMS)**

Summerlin, NV/June 27-July 1, 2005

### **IEEE Nuclear and Space Radiation Effects Conference (NSREC)**

Seattle, WA/July 11-15, 2005

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## CONTACT INFORMATION

Program officials may be contacted as follows:

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